BOROUGH OF SOUTHPORT.

REPORT

UPON THE

MORTALITY AND SICKNESS

OF THE

URBAN SANITARY DISTRICT

OF THE

BOROUGH OF SOUTHPORT,

For the Year 1898,

BY

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The recent sub-division of the Borough into ten Wards has deprived the statistics of the former divisions of interest to a great extent, and the increasing distance from the last census year is sapping the basis of those statistics so much that I propose to divide the Borough, for differential statistical purposes, into three districts, each of which have characteristics distinguishing them from the other two.

The first district is the rural one, consisting of Hesketh and Scarisbrick Wards according to the old delimitations. This district is semi-rural in character, mainly inhabited by persons of the weekly wages class, and characterised by a high birth-rate and a death-rate greater than the other two districts. The second is East Ward according to the old boundaries, and the third is co-extensive with the old Talbot, Craven, and West Wards. East Ward is an essentially upper class district, and the three other Wards each contain a mixed population—working, middle, and upper class, in very similar proportions, and presenting such closely analogous vital phenomena, as to constitute a fairly homogeneous whole.

The population and sex distribution in these areas may be stated as follows :—

TABLE III.

	Males.	Females.	Persons.
Rural Wards	3730	3853	7583
East Ward	2354	4631	6985
Three other Wards	14251	20859	35110
	20335	29343	49678

The proportion of males to females in these areas stands thus :—

TABLE IV.

Rural District	100 males to	103.3 females.
East Ward	do.	196.7 do.
Three other Wards	do.	146.4 do.
The whole Borough	do.	144.3 do.

It will be seen further on how these varying sex distributions, plus the concomitant social conditions, largely affect both the birth-rates and death-rates of the several areas.

The age and sex distribution of the population is displayed in the following Table :—

TABLE V.

Population of Southport, at 12 age groups, male and female, in 1898.

Group.	Age.	Male.	Female.	Persons.
1	Under 5	2375	2399	4774
2	5—10	2451	2326	4777
3	10—15	2363	2603	4966
4	15—20	1919	3314	5233
5	20—25	1754	3417	5171
6	25—35	2959	5024	7983
7	35—45	2456	3572	6028
8	45—55	1794	2878	4672
9	55—65	1245	2131	3376
10	65—75	772	1226	1998
11	75—85	227	401	628
12	85 & up	20	52	72
		20335	29343	49678

This age and sex grouping is very curious, both in itself and as compared with the age and sex grouping of the country as a whole.

For instance, the proportion of males to females under 15 years of age is as 100 to 102; between 15 and 35 there are 100 males to 172 females, and from 35 years upwards there are 100 males to 157 females. Not only so, but the number of males between 5 and 10 years of age is actually greater than the number living under 5 years of age by 76, while the females are 73 less. The total of males and females, *i.e.*, persons between 5 and 10, is three *more* than the total under 5, whereas normally there should have been 282 less. These, of course, represent immigration, which thus sets in early in life, towards Southport, especially among boys. The vast tide of female immigration sets in somewhat before the 15th year of age, and is composed of school-girls at boarding schools, shop assistants, and domestic servants.

The following Table shows how the Southport population is actually grouped, and how 49,678 persons would be grouped in England and Wales at large.

TABLE VI.

Age.	Southport.	England and Wales.
Under 5	4774	6088
5—10	4777	5806
10—15	4966	5502
15—20	5233	5055
20—25	5171	4535
25—35	7983	7501
35—45	6028	5704
45—55	4672	4280
55—65	3376	2840
65—75	1998	1709
75—85	628	582
85 & up	72	76
	49678	49678

The most remarkable feature in this Table is the deficiency of 2879 children under 15 years of age in the Southport population, as compared with an English population of the same total at all ages taken together. This deficiency in child population, however, does not apply in equal proportions to every district within the Borough. Probably the rural Wards contain a plethora of children, while other parts are even more denuded of children than the total deficiency in the Borough would imply. This makes the school accommodation required a somewhat complex problem; at any rate it cannot be settled by a simple rule-of-three sum.

The sorting of the Southport population, as compared with the English distribution, is perhaps best expressed by a Table of Percentages, and this I now append.

TABLE VII.

THE PROPORTIONATE NUMBER OF MALES, FEMALES, AND PERSONS PER 1000 PERSONS AT TWELVE AGE GROUPS IN SOUTHPORT AND ENGLAND AND WALES RESPECTIVELY :—

Ages.	Males.		Females.		Total.	
	Southport.	Eng. and W.	Southport.	Eng. and W.	Southport.	Eng. and W.
Under 5	47.747	60.945	48.278	61.575	96.025	122.52
5—10	49.389	58.388	46.804	58.672	96.193	117.06
10—15	47.433	55.542	52.312	55.598	99.745	111.14
15—20	38.691	50.519	66.657	51.221	105.348	101.74
20—25	35.357	43.008	68.711	48.242	104.068	91.25
25—35	59.629	72.203	101.048	78.747	160.677	150.95
35—45	49.462	55.549	71.849	59.231	121.311	114.78
45—55	36.202	41.092	57.914	45.008	94.116	86.10
55—65	25.093	26.553	43.399	30.577	68.492	57.13
65—75	15.553	15.340	24.562	18.790	40.115	34.13
75—85	4.372	5.016	8.114	6.674	12.486	11.69
85 and up. ...	.362	.559	1.062	.951	1.424	1.51
	409.290	484.714	590.710	515.286	1000.000	1000.00
	590.710	515.286				
	1000.000	1000.000				

There are several curious statistical facts to be educed from the foregoing Table, but they have been so amply stated in previous Reports that perhaps they need not be further mentioned.

The births registered in the Borough during 1898 were 509 of males and 470 of females, making a total of 979, as against 1003 in 1897. The resulting birth-rate was 19.71 per 1000 per annum, as against 20.70 in 1897, *i.e.*, nearly 1 per 1000 less. The ratio of male children born to females was 108.3 of the former to 100 of the latter, an unusual but of course accidentally excessive ratio. The natural increase of the population of the Borough, *i.e.*, the excess of births over deaths, was 259; the estimated increase being 1233. Immigration accounts for 974 persons.

The births were distributed as follows :—

TABLE VIII.

	Male.	Female.	Total.
Rural Wards	165	170	335
East Ward	20	11	31
Three Town Wards	324	289	613
	509	470	979

The birth-rate resulting from these numbers are :—

TABLE IX.

Rural Wards	44.18 per 1000 per annum.
East Ward	4.44 do.
Three Urban Wards	17.46 do.
The Borough	19.71 do.

The birth-rate of the country at large in 1898 was 29.4. Rural Southport maintains it reputation as an "*officina gentium*" in sharp contrast to the infecundity of East Ward. A high birth-rate and a low poor-rate ruling in the same district furnish about as good an indication of local prosperity as can be gathered from any statistical data obtainable.

The deaths registered within the Borough in 1898 were 720 in number, viz., 350 of males and 370 of females. The male death-rate was 17.21 per 1000 per annum, and the female 12.61. The death-rate of males and females, *i.e.*, of the whole Borough, 14.49, or 2.06 less than in 1897.

The above deaths were distributed thus :—

TABLE X.

	Males.	Females.	Persons.
The Rural Wards	64	63	127
East Ward	34	39	73
Three Town Wards	252	268	520
Borough	350	370	720

The death-rates in each district were :—

TABLE XI.

	Males.	Females.	Persons.
The Rural Wards	17.15	16.35	16.75
East Ward	14.44	8.42	10.45
Three Town Wards	17.68	12.85	14.81
The Borough	17.21	12.61	14.49

The excess of rural death-rate over the rest of the Borough is 2.26 per 1000 for 1898, as compared with 8.71 for 1897. This is an improvement, but the excess of the rural death-rate over the East Ward death-rate of 6.3 per 1000 makes one long for the time when the environment of classes shall be less uneven and less destructive of the lives of those who bear the heat and burden of the day.

I now append the usual Annual Epitome of Vital Statistics. The deaths include only those actually registered within the Borough.

TABLE XII.

VITAL STATISTICS, 1898.

ESTIMATED POPULATION, MIDDLE OF 1898 - - - - - 49,678.

BIRTHS.		DEATHS.				
Male.	Female.	Male.	Female.	Resident more than 1 year.	Resident less than 1 year.	Bad Lives Imported.
509	470	350	370	609	111	95

DEATHS FROM												Deaths in Public Institutions.
Seven Zymotic Diseases.	Smallpox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Typhus, Enteric, and Simple Fever.	Diarrhœa.	Cholera and Choleraic Diarrhœa.	Diseases of the Respiratory Organs.	Phthisis.	Violence.	
40	—	7	1	3	7	3	19	—	116	70	16	56

DEATHS OF PERSONS AGED						ANNUAL RATE PER 1000 LIVING.				
0—1 year.	1—5 years.	5—15 years.	15—25 years.	25—60 years.	60 years and upwards.	Births.	Deaths.		Last Year.	Diseases of Respiratory Organs, excluding Phthisis.
135	50	21	42	230	242	19·71	Gross ...	14·49	16·55	2·34
							Local ...	12·58	14·49	
							Zymotic	·81	1·09	

Local death-rate means death-rate computed by excluding death of moribund visitors.

The 95 moribund visitors who died in 1898 died of the following diseases :—

TABLE XIII.

Whooping Cough	1
Phthisis	12
Respiratory Diseases	14
Diabetes	1
Cancer	10
Kidney Disease	7
Diseases of the Heart and Great Blood Vessels	15
Diseases of Brain and Spinal Cord	8
Diseases of the Liver	1
Violence	2
Peritonitis	5
Old Age	1
Tubercular Diseases not Phthisis	2
Typhoid Fever	1
Diarrhœa	2
All other Diseases	15
Total	95

The ages at which moribund visitors died in 1898 was as follows :—

TABLE XIV.

Ages.	Male.	Female.	Persons.
Under 5	4	2	6
5—10	1	1	2
10—15	0	0	0
15—20	1	3	4
20—25	3	4	7
25—35	5	5	10
35—45	9	6	15
45—55	8	4	12
55—65	7	8	15
65—75	10	7	17
75—85	4	2	6
85 & Up	0	1	1
	52	43	95

The average duration of life amongst these moribund visitors for five years last past has been 66.2 days from the date of arrival.

The average duration of life after arrival, in five successive years, has been :—

TABLE XV.

1894	70 days.
1895	62 do.
1896	52 do.
1897	80 do.
1898	67 do.

The proportion of deaths of moribund visitors to deaths of residents has undergone considerable diminution of late years. During the first five years of which we have a record these deaths amounted to 15.42 per cent. of our total mortality. During the last five years they have only amounted to 12.4 per cent. I think this indicates a growing common-sense conviction that mere change of air has no appreciable beneficial effect upon advanced organic disease. It is wiser and kinder to keep dying people at home, and spare them the last disillusion which humanity can suffer.

Forms A and B are now appended, which are drawn up according to the Local Government Board's directions in that behalf, and display the leading features of the year's mortality. In immediate succession to these follows the Epitome of Vital Statistics for the last 28 years, a document to which I cannot hope to contribute many more figures, but which, I take it, is worth carrying on in the future as the best possible method of testing and justifying the sanitary enterprise of the governing body of the Town. The 28 years' Epitome is based upon deaths registered within the Borough solely, and is not corrected for outside deaths. The latter are all amply noted elsewhere.

(A)

TABLE XVI.

TABLE of **DEATHS** *during the Year 1898, in the Southport Urban Sanitary District, classified according to* DISEASES, AGES, *and* LOCALITIES.

NAMES OF LOCALITIES adopted for the purpose of these statistics; public Institutions being shown as separate localities. (*Columns for Population and Births are in Table B.*)	MORTALITY FROM ALL CAUSES, AT SUBJOINED AGES.								MORTALITY FROM SUBJOINED CAUSES, DISTINGUISHING DEATHS OF CHILDREN UNDER FIVE YEARS OF AGE.																					
									1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
													FEVERS.																	
(*a*)	At all Ages. (*b*)	Under 1 Year. (*c*)	1 and under 5 (*d*)	5 and under 15 (*e*)	15 and under 25 (*f*)	25 and under 65 (*g*)	65 and upwards (*h*)	(*i*)	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	Whooping Cough.	Diarrhœa and Dysentery.	Rheumatic Fever.	Phthisis.	Bronchitis, Pneumonia, & Pleurisy.	Heart Disease.	Influenza.	Injuries.	All Other Diseases.	TOTAL.
SOUTHPORT (TOWN)	664	134	47	15	36	237	195	Under 5				1								7	6	18		5	39	1		1	103	181
								5 upwds.		1	1	1		1			2				1		2	60	71	76	13	12	242	483
THE INFIRMARY	47	1	3	6	5	25	7	Under 5																	1				3	4
								5 upwds.						1										5	2	12		4	19	43
HYDROPATHIC HOSPITAL	0	—	—	—	—	—	—	Under 5																						0
								5 upwds.																						0
CONVALESCENT HOSPITAL	6	—	—	—	—	5	1	Under 5																						0
								5 upwds.														1			1	1			3	6
CONVALESCENT HOME	3	—	—	—	1	2	—	Under 5																						0
								5 upwds.						1											2					3
CHILDREN'S SANATORIUM	0	—	—	—	—	—	—	Under 5																						0
								5 upwds.																						0
ORMSKIRK WORKHOUSE	26	1	1	0	1	10	13	Under 5																	1				1	2
								5 upwds.																2	5	3	1		13	24
MOSS LANE HOSPITAL	5	0	0	3	1	1	0	Under 5																						0
								5 upwds.		2				3																5
TOTALS	751	136	51	24	44	280	216	Under 5				1								7	6	18		5	41	1		1	107	187
								5 upwds.		3	1	1		6			2				1	1	2	67	81	92	14	16	277	564

The subjoined numbers have also to be taken into account in judging of the above records of mortality.

Deaths occurring outside the district among persons belonging thereto	31	1	1	3	2	11	13	Under 5																	1				1	2
								5 upwds.		2				3										2	5	3	1		13	29
Deaths occurring within the district among persons not belonging thereto	95	5	1	2	11	52	24	Under 5													1	1		1	2				1	6
								5 upwds.						1								1		11	12	15		2	47	89

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(B)

TABLE XVII.

TABLE OF POPULATION, BIRTHS, AND OF NEW CASES OF INFECTIOUS SICKNESS, *coming to the knowledge of the Medical Officer of Health, during the year 1898, in the Southport Urban Sanitary District; classified according to* DISEASES, AGES, *and* LOCALITIES.

Names of Localities adopted for the purpose of these Statistics; Public Institutions being shown as separate localities.	Population at All Ages.		Registered Births.	Aged under 5 or over 5.	New Cases of Sickness in each Locality, coming to the knowledge of the Medical Officer of Health.													Number of such Cases Removed from their Homes in the several Localities for Treatment in Isolation Hospital.												
	Last Census.	Estimated to Middle of 1898.			1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8	9	10	11	12	13
									Fevers.													Fevers.								
					Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	* Measles.	* Whooping Cough.	Smallpox.	Scarlatina.	Diphtheria.	Membranous Croup.	Typhus.	Enteric or Typhoid.	Continued.	Relapsing.	Puerperal.	Cholera.	Erysipelas.	Measles.	
(a)	(b)	(c)	(d)	(e)																										
SOUTHPORT (Town)	41,406	49,678	979	Under 5		19	3	1		9						120	6		10	1			3						2	
				5 upwds.		66	15	1		41	1		3		13	154	4		45	3			19						5	
THE INFIRMARY				Under 5		1													1											
				5 upwds.		4				5					1				4									1		
CONVALESCENT HOME				Under 5																										
				5 upwds.						1					1													1		
Totals	41,406	49,678	979	Under 5		20	3	1		9						120	6		11	1			3						2	
				5 upwds.		70	15	1		47	1		3		15	154	4		49	3			19					2	5	

* Note.—Measles and Whooping Cough ascertained—not notifiable in this District.

TABLE XVIII.

Vital Statistics.—Borough of Southport. (*Twenty-eight Years.*)

YEAR.	BIRTHS.		DEATHS.					DEATHS FROM															DEATHS OF PERSONS AGED						ANNUAL RATE PER THOUSAND LIVING.							POPULATION.
	Male.	Female.	Male.	Female.	Resident more than One Year.	Resident less than One Year.	Bad Lives Imported.	Seven Zymotic Diseases.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	Cholera and Choleraic Diarrhœa.	Diseases of the Respiratory Organs.	Phthisis.	Violence.	Imported Phthisis.	Imported Diseases of the Respiratory Organs.	Deaths in Public Institutions.	Deaths under One Year of Age to 1000 Births.	0—1.	1—5.	5—15.	15—25.	25—60.	60 and upwards.	Births.	Deaths, Gross.	Deaths, Local.	Deaths, Zymotic.	Deaths, Native Phthisis.	Deaths, Diseases of Respiratory Organs, Gross.	Deaths, Diseases of Respiratory Organs, Local.	
1871	264	242	221	203	—	—	—	65	24	3	5	2	6	15	10	1	56	59	11	—	—	38	170	86	47	20	37	140	94	27·97	23·44	—	3·59	—	3·09	—	18,086
1872	282	271	223	220	343	100	73	40	6	1	2	1	8	11	11	—	59	72	8	21	7	27	170	94	56	23	25	152	93	29·34	23·50	19·63	2·12	2·70	3·13	2·76	18,846
1873	278	300	239	220	353	106	65	78	—	1	32	—	3	22	20	—	58	68	9	33	8	32	164	95	50	39	24	139	112	29·43	23·37	20·06	3·97	1·78	2·95	2·64	19,638
1874	331	291	257	248	387	118	85	81	—	15	27	—	3	22	14	—	64	66	15	34	11	28	178	111	67	32	21	181	93	30·39	24·67	20·52	3·95	1·56	3·13	2·59	20,463
1875	336	331	306	287	475	118	81	70	1	—	7	1	6	39	16	—	90	87	12	27	13	31	183	123	55	27	43	193	152	28·81	25·65	22·14	3·02	2·59	3·89	3·33	23,113
1876	439	424	326	305	485	146	102	85	27	1	—	5	1	33	18	—	93	83	14	34	23	44	153	132	44	28	51	215	161	33·19	24·27	20·34	3·27	1·88	3·57	2·69	25,997
1877	463	456	291	329	503	117	106	53	1	1	2	17	5	13	14	—	104	75	17	25	20	22	123	113	67	39	34	202	165	33·87	22·85	18·94	1·95	1·84	3·83	3·09	27,132
1878	481	444	332	314	518	128	111	70	—	4	14	7	—	14	31	—	94	87	16	32	14	20	151	140	70	29	37	200	170	32·66	22·81	18·89	2·47	1·94	3·32	2·82	28,317
1879	461	465	289	328	511	106	89	25	—	1	5	2	7	2	8	—	134	68	16	19	17	29	124	115	63	26	36	213	164	31·33	20·87	17·86	·84	1·65	4·53	3·95	29,554
1880	470	452	340	367	610	97	81	49	—	4	4	3	18	7	13	—	119	70	13	22	10	26	190	176	86	33	32	200	180	29·89	22·92	20·29	1·58	1·55	3·85	3·53	30,845
1881	457	460	290	278	462	106	90	44	—	5	11	6	5	10	7	1	94	73	13	28	12	24	100	92	76	27	30	173	170	28·48	17·64	14·84	1·36	1·39	2·92	2·55	32,191
1882	451	421	263	289	450	102	91	34	—	—	15	7	4	6	2	—	108	72	8	24	17	24	119	104	73	39	27	166	143	26·24	16·61	13·87	1·02	1·44	3·25	2·74	33,232
1883	438	411	323	335	558	100	93	51	—	8	7	4	18	6	8	—	144	72	10	17	7	29	134	114	85	30	38	195	196	24·97	19·35	16·61	1·50	1·61	4·23	4·03	34,077
1884	460	416	315	302	511	106	87	36	—	3	3	10	3	5	11	1	103	78	16	20	11	25	132	116	70	25	37	164	205	25·07	17·66	15·17	1·03	1·66	2·95	2·63	34,944
1885	453	419	317	317	517	117	93	37	—	4	3	8	12	5	5	—	108	65	20	19	15	28	141	123	71	24	27	193	196	24·34	17·72	15·10	1·03	1·28	3·01	2·60	35,833
1886	509	415	324	316	544	96	82	21	—	1	3	5	5	1	6	—	100	77	24	18	5	29	140	129	40	28	31	186	226	25·15	17·42	15·19	·57	1·61	2·72	2·59	36,745
1887	413	413	316	362	575	103	85	36	—	10	6	7	4	4	5	—	105	67	20	17	8	33	151	125	59	30	40	190	234	21·92	17·99	15·73	·96	1·33	2·79	2·57	37,681
1888	467	460	331	370	587	114	91	25	—	—	2	18	—	3	2	—	108	72	16	23	8	27	135	125	60	45	37	222	212	23·99	18·14	15·79	·65	1·27	2·80	2·59	38,640
1889	457	431	319	387	590	116	96	53	—	4	4	18	18	1	8	—	113	64	13	23	5	30	148	131	72	45	32	180	246	22·41	17·82	15·39	1·34	1·03	2·85	2·73	39,623
1890	428	431	319	386	584	121	95	41	—	4	13	14	5	2	3	—	127	65	14	19	7	41	122	105	63	41	28	225	248	21·14	17·35	15·01	1·01	1·13	3·13	2·95	40,631
1891	475	522	369	422	656	135	112	34	—	1	7	3	9	5	9	—	160	68	18	19	18	35	124	124	61	38	35	234	299	23·93	18·98	16·30	·82	1·18	3·84	3·41	41,666
1892	488	439	403	405	686	122	101	53	—	14	17	7	7	4	4	—	138	69	19	14	15	35	125	116	69	34	27	246	316	21·70	18·91	16·55	1·24	1·29	3·23	2·88	42,726
1893	494	499	366	372	617	121	102	49	—	3	7	6	3	14	14	2	122	71	22	17	11	43	146	145	68	24	40	231	230	22·67	16·84	14·51	1·12	1·23	2·78	2·53	43,813
1894	505	461	353	332	577	108	88	51	—	1	8	12	23	5	1	1	91	58	16	14	3	44	143	139	64	35	27	205	215	21·50	15·25	13·29	1·13	·98	1·98	1·96	44,928
1895	535	497	370	429	695	104	84	42	—	1	6	3	1	9	22	—	138	61	24	19	11	49	137	142	55	27	36	229	310	22·40	17·34	15·52	·91	·91	2·99	2·76	46,071
1896	545	491	330	353	572	111	89	45	—	6	13	5	8	2	10	1	95	54	17	10	9	47	129	134	60	22	31	195	241	21·93	14·46	12·57	·95	·93	2·01	1·82	47,243
1897	507	496	381	421	669	133	101	54	—	4	5	5	14	2	22	2	114	81	17	19	9	50	181	182	70	24	38	231	257	20·70	16·55	14·47	1·11	1·28	2·35	2·17	48,445
1898	569	470	350	370	609	111	95	40	—	7	1	3	7	3	19	—	116	70	17	12	14	56	138	135	50	21	42	230	242	19·71	14·49	12·78	81	1·17	2·34	2·05	49,678

The gross death-rate of the Borough is notably augmented by deaths in our Public Institutions. Of the 47 deaths at the Infirmary, 19 were outsiders, and 3 deaths at the Convalescent Home, with 6 at the Convalescent Hospital, were also brought from outside. These 28 deaths rather more than balance the 26 deaths of Southportonians in Ormskirk Workhouse.

Referring to the Epitome of Statistics for 28 years, it is interesting to note that during the first 5 years of the record the gross death-rate averaged 24·12 per 1000 per annum, and during the last 5 years, 15·62. The Zymotic death-rate of the first 5 years averaged 3·3 per 1000 per annum, and of the last 5 years, ·98. If the old mortality had prevailed, instead of the 720 deaths which occurred in the Borough last year, there would have been 1198; and instead of 40 deaths from the 7 principal Infectious diseases, there would have been 164. This is only tantamount to saying that, under the old mortality, 478 persons would have died in Southport in 1898 who did *not* die. The economic gain is enormously greater than any sums spent on sanitation.

The 720 deaths registered within the Borough during 1898 were distributed, as regards age and sex, as follows:—

TABLE XIX.

No.	Ages.	Male.	Female.	Persons.
1	Under 5	105	80	185
2	5—10	7	5	12
3	10—15	5	4	9
4	15—20	6	15	21
5	20—25	9	12	21
6	25—35	20	20	40
7	35—45	34	35	69
8	45—55	29	38	67
9	55—65	42	51	93
10	65—75	53	60	113
11	75—85	36	42	78
12	85 & Up	4	8	12
		350	370	720

The year 1898 having been one with a low death-rate, it is satisfactory to note 67 fewer deaths than in 1897 in age group (No. 1) under 5 years, 4 fewer in group 2, 12 in group 6, 3 in group 8, 5 in group 9, 2 in group 11, and 7 in group 12.

The increases, as compared with 1897, have been—1 in group 3, 2 in group 4, 2 in group 5, 6 in group 7, and 7 in group 10.

The gains are 100, and the losses 18, the net gains being 82.

The death-rates at 12 age groups which result from the last Table, are as follows:—The English death-rates are placed side by side with the Southport rates at ages, so that a comparison may be easily and immediately made.

TABLE XX.

No.	Age Group.	Southport Male.	English Male.	Southport Female.	English Female.	Southport Persons.	English Persons.
1	Under 5	44.21	62.0	33·35	53·03	38·75	54.66
2	5—10	2.86	4.66	2.15	4.67	2·51	4·59
3	10—15	2.12	2-65	1.54	2.82	1.81	2.73
4	15—20	3·13	4.26	4·53	4·05	4·01	4·07
5	20—25	5·13	5·39	3·51	5·01	4·06	5·31
6	25—35	6.76	7·29	3·98	6.82	5·01	7·07
7	35—45	13·84	12.10	9.80	10.29	11·45	11.13
8	45—55	16.16	19.58	13.20	15.16	14·34	17·36
9	55—65	33·73	35·75	23·93	29·31	27·55	31·74
10	65—75	68.65	71.99	48.94	62.08	56.56	67.19
11	75—85	158.59	148.90	104.74	134.20	124.20	140.59
12	85 & Up	200.00	301.18	153.85	270.83	166.66	281.86

The advantage at nearly every age group is in favour of Southport, and taking the 3 first age groups together, the saving of life brought about by our lower death-rates under 15 years of age as compared with England and Wales represents 87 lives.

I now produce the Table showing the effect upon our death-rate arising from age and sex grouping. This table represents the number of deaths which would accrue from Southport rates and English age and sex grouping. This year it will be seen that we gain hardly anything in the way of a mere computative advantage, and we may therefore look upon our diminished death-rate with all the more satisfaction.

TABLE XXI.

Showing deaths which would accrue from a population equal to the Southport population, but grouped as in England and Wales.

Group.	Age.	Persons as in English Grouping.		Southport. Rates.		Deaths resulting.
1	under 5	6088	×	38·75	=	235·91000
2	5—10	5806	×	2.51	=	14·57306
3	10—15	5502	×	1.81	=	9.93862
4	15—20	5055	×	4·01	=	20.27055
5	20—25	4535	×	4.06	=	18.41210
6	25—35	7501	×	5·01	=	37·58001
7	35—45	5704	×	11.45	=	65·31080
8	45—55	4280	×	14·34	=	61·37520
9	55—65	2840	×	27·55	=	78.24200
10	65—75	1709	×	56.56	=	96.66104
11	75—85	582	×	124.20	=	72.28440
12	85 & up.	76	×	166.66	=	12.66616
		49,678				723·24394
						720.00000

Gain by Southport age and sex distribution .... 3·24394

The actual deaths being 720.

The death-rate resulting from this small addition would have been 14.56 per 1000. The actual death-rate was 14.49, consequently the computative advantage accruing from our local age and sex distribution this year (1898) is .07 per 1000, and our rate must be raised accordingly.

I now proceed to strike the final death-rate for 1898, resulting from various additions demanded and deductions allowed by the Local Government Board, with the correction for age and sex distribution.

The deaths registered within the Borough in 1898 were 720. To these must be added 5 deaths at the Borough or Moss Lane Fever Hospital (situated outside the Borough), and 26 which occurred at the Ormskirk Workhouse, of persons admitted from Southport, making a total of 751 deaths. From these I deduct the deaths of 95 persons (moribund visitors) who died in the Borough, but did not in any sense belong thereto—see Table A. The rate computed on the 656 deaths remaining equals 13.21, and the computative advantage of our age and sex distribution .07 being added, raises the rate to 13.28, which is perhaps the fairest rate obtainable. Deaths of persons belonging to the district, but who go elsewhere to die, are a neglectable quantity, except as regards the deaths at Ormskirk Workhouse, and these live for considerable periods under conditions over which we have no control.

The death-rate in England and Wales in 1898 was 17.6 per 1000 per annum, and the death-rate from the 7 principal Zymotic diseases was 2.2.

The 33 great Towns, respectively, had general and Zymotic rates of..	19.00	and	2.85
The 67 other large Towns	17.20	,,	2.41
And England and Wales, less the 100 Towns	16.70	,,	1.75
Southport (actually registered within the Borough)	14.49	,,	0.81

The following Table shows the death-rates per 1000 per annum for each of the principal Zymotic diseases in England and Wales and Southport respectively. In this table I include the deaths at the Infectious Diseases Hospital outside the Borough, and consequently not registered within the Borough.

TABLE XXII.

	England & Wales.	Southport.
Measles	0.41	0.14
Scarlet Fever	0.11	0.06
Diphtheria	0.24	0.06
Whooping Cough	0.31	0.14
Fever	0.18	0.12
Diarrhœa	0.96	0.38
Small Pox	0.01	0.00
	2.22	0.90

These rates, like those of 1897, are fairly satisfactory, but Fever and Diarrhœa ought to diminish, and may be reasonably expected to do so when the midden privies are further reduced in number and the flow of the sewage is accelerated. I am not concerned here to discuss theories as to the genesis of Fever, Diphtheria, and Diarrhœa, but every school of opinion will unite in affirming that these diseases will prevail in places and amongst people inversely as the presence of filth. To deport filth as far as maybe, and as soon as maybe, is the first duty; there is a long future available in which to settle the purely scientific problems involved. In the meantime dirt cannot be got rid of too quickly.

Infectious Diseases of the notifiable class have diminished again in 1898, as compared with 1897 and 1896. The number of notifiable cases actually notified was in—

TABLE XXIII.

1896	542
1897	261
1898	185

The number of non-notifiable cases ascertained was in—

TABLE XXIV.

1896	279
1897	67
1898	303

The totals of notifiable and non-notifiable come out as—

TABLE XXV.

1896	821
1897	328
1898	488

The distribution of these cases in 1898, dividing the Borough into three districts as in Table III., was—

TABLE XXVI.

	Rural Wards.	East Ward.	Three Old Wards.	Total.
Scarlet Fever	5	6	79	90
Diphtheria and Membraneous Croup	2	1	17	20
Typhoid and Continued Fever	14	3	40	57
Erysipelas	4	2	9	15
Puerperal Fever	0	1	2	3
Measles	127	3	144	274
Whooping Cough	0	0	10	10
Diarrhœa	9	1	9	19
	161	17	310	488

The notified and ascertained cases of Infectious disease have been at the following rate per 1000 inhabitants in 1898 :—

TABLE XXVII.

Two Rural Wards (old style)	21·23
East Ward	2·43
Three (old style) Urban Wards	8·83
The whole Borough	9·82

The above Table, read in conjunction with Table XI., reiterates the monotonous and dismal story of the greater incidence of disease and death upon working-class populations than upon the wealthier members of the community.

The admissions to the Infectious Diseases Hospital in 1898 were :—

TABLE XXVIII.

Typhoid Fever	22
Diphtheria	4
Scarlet Fever	60
Measles	7
Erysipelas	2
Total	95

Of these 95 cases, 5 died, giving a case mortality for the year of 6·21.

The case mortality of the same diseases treated outside the Hospital was 3·14. As 2 of the cases sent into Hospital were moribund, the figures somewhat lose their value.

The total admissions to Hospital since it was opened and up to December 31, 1898, have been :—

TABLE XXIX.

Small Pox	24
Typhoid Fever	91
Scarlet Fever	855
Diphtheria	29
Measles	19
Continued Fever	1
Chicken Pox	1
Rotheln	1
Erysipelas	2
In error as to Diagnosis	3
	1026

The total deaths have been 37, showing a case mortality of 3·61 per cent.

The total mortality in Hospital since notification came into force has been 30, and the total case mortality, omitting the 3 moribunds, 3·41 per cent.

The case mortality of the same diseases treated outside since notification has been in force has been 7·24 per cent. *approximately.* The precise per centage cannot be exactly stated on account of a small number of concealed cases, but the error can only be within narrow limits, and less concealment is practised year by year, as people fall into the usual habit of complying with the law.

With the exception of Measles and Diarrhœa, 1898 has been singularly fortunate as regards Zymotic disease. Even these only stand to the rate throughout the country as ·14 and ·38 per 1000 per annum respectively to ·41 and ·96. No deaths occurred from Diarrhœa, except in the three months of August, September, and October.

The sudden outbreak of hot weather on August 11th was, however, almost immediately followed by a crop of cases, resulting in 2 deaths in August, 12 in September, and 5 in October. I do not know that any measures but more and more diligent refuse removal can have any material effect upon the prevalence of Diarrhœa. The haze and aqueous vapour which hangs over us on warm Summer and Autumn nights is not without its disadvantages in this respect. Clear skies at night would favour radiation into space of terrestrial heat, and reduce the high ground temperature, which seems to produce Diarrhœa. Measles existed in a very mild form during the first eight months of the year, stopping suddenly short in August. Cases were *ascertained*, not *notified,* as followed :—

TABLE XXX.

January	27
February	15
March	20
April	98
May	5
June	49
July	52
August	8

We find non-notification a great stumbling block in dealing with both Measles and Whooping Cough. It is uttetly useless to inculcate segregation as long as these diseases are unknown to the Law. It is difficult to realise that Measles and Whooping Cough together last year killed nearly seven times as many children as Scarlet Fever in England and Wales. The only solicitude displayed now-a-days is when a School Manager, with a taste for arithmetical problems, has satisfied himself that it will pay better to ask for a "closing" or "exclusion" order, than to keep on "never minding" and trust to Providence with an "open door."

Enteric Fever has a very similar seasonal prevalence to Diarrhœa. Out of 57 notifications, 35 succeeded the hot wave in August, while the other 22 were spread over the first seven months of the year. If the current doctrine of the genesis of specific fevers were *complete*, there should be no seasonal prevalences at all. The water-borne fever germ can be washed into a well, or reservoir, or anywhere else quite as well in cold weather as hot. And yet, somehow or other, with a reprehensible indifference to the demands of orthodox bacteriological theory, it persists in taking itself hither and thither in the Summer and Autumn. It may be that the practice of making *al fresco* offerings in warm weather to the Goddess Cloacina explains something, especially where the "Romany Roy" abounds in the land. If so, brooks feeding reservoirs and reservoirs themselves should be most jealously protected.

Diphtheria has, curiously enough, illustrated again the tendency which I pointed out in my Reports for 1888 and 1889 to occur in wet seasons immediately following dry ones. In the first nine months of 1898 the rainfall averaged 2.19 inches per month. The notifications of Diphtheria during that nine months numbered 6. During the next three months the rainfall averaged close upon 3 inches per month, and the notifications rose to 14 in that period ; not to mention that others accrued in January, 1899. Here is another instance of rise of subsoil water, extrusion of ground air, manifestation of Diphtheria.

The effect of season upon Respiratory diseases in 1898 was marked in much the usual way. The average deaths per mensem were 9.66. The actual deaths as they accrued from month to month were ;—

TABLE XXXI.

January	10
February	6
March	9
April	19
May	10
June	9
July	9
August	7
September	3
October	14
November	11
December	13
Total	116

The bronchitic and asthmatic are wearied out by April, after contending with their diseases all the Winter months, and a gleam of delusive sunshine then lures them to their doom.

Phthisis accounts during the year 1898 for 70 deaths. Deducting the 12 cases brought in from outside the Borough in a dying condition, this gives us 58 fatal cases of native Phthisis. If this were all the mortality from Tuberculosis it would be serious enough, but before the fatality of Tuberculosis can be fully appreciated the deaths from General Tuberculosis, Tubercular Meningitis, and Marasmus must be added on. The total mounts up in this way, independently of visitors :—

TABLE XXXII.

Phthisis	58
Marasmus	11
Meningitis	7
General Tuberculosis	17
	93

The resulting death-rate is 1.87 per 1000 per annum from Tubercular Disease belonging to the district. As this mortality is more than double that from all the seven principal Zymotic diseases added together, I think I am not permature in recommending compulsory notification of the Tubercular diseases, and appropriate regulations to follow. These need be neither vexations nor oppressive as regards the human sufferer; what is wanted is a full disclosure of facts, and insistance upon their importance. The rest will follow. The conscientious objector can hardly put his foot into *this* business.

Thirty-six deaths from Cancer, 10 male and 26 female, seem to be a larger number than would be expected. Ten of the cases which proved fatal were sent here from outside, suffering from the disease. I am at a loss to know what earthly good can be hoped for in sending such cases here. The present impression is that the neighbourhood of estuaries, especially where these flow through flat, low-lying alluvial deposits, is the special habitat of Cancer. I rather think that if King Solomon had been living in these days this would have been one of the things he said he couldn't understand.

Fifty-six deaths from Kidney Disease and 90 from Diseases of the Heart and Grea Blood-vessels completes the tale of the more destructive diseases. The 116 persons who died of Respiratory diseases, and the 90 who died of Heart Disease, would have died sooner anywhere else in this part of the country.

The work of the Inspectors of Nuisances during 1898 is stated in the next Table. I am afraid that no Tabular Statement of this work does justice either to the labour involved or to the accuracy, judgment, and skill with which it is, in the main, carried out. I take it that this must be so, or such a crowd of cases could not be dealt with, with so few appearances in Court. Bungling examinations, inappropriate remedies, and overbearing haste would keep the Department in continual hot-water—which is by no means the case.

TABLE XXXIII.

Nuisance Inspections not reported to the Health Committee	10541
Nuisances Reported to Health Committee	1841
Enquiries into Zymotic Diseases (notifiable)	185
do. (not notifiable)	299
Houses or parts of Houses disinfected	144
Day visits to Common Lodging-Houses	118
Night do.	43
Inspections of Workshops not reported to Health Committee	400
do. reported to Health Committee	40
Visits to Cow-sheds and Milk-shops	247
do. reported to Committee	33
Inspections under Shop-hours' Act	200
Visits to Butchers' Shops	1789
do. Market Hall	267
Notices served	956
Visits to Private Slaughter-houses	158
do. Public do.	268
do. Shrimp-potting Houses	56
Railway Cattle Trucks	28
Patients Removed to Hospital	95
Visits to Bakehouses	91
Bakehouses Reported to Committee	18
Inspections of Fine Jane's Brook	24
Inspections of Street Hawkers' perishable goods	82
Smoke Observations	6
	17929

The various notices served (956) and orders obtained, together with work executed under our powers, resulted in separate jobs :—

TABLE XXXIV.

Houses re-drained	128
House-drains unstopped	632
Midden-privies converted into water closets	219
Wet ashpits converted into dry	148
Sundry structural nuisances abated	462
Total	1589

The total number of midden-privies abolished in the 11 years, ending December 31st, 1898, is 1737.

Refuse removal has been effected as follows :—

TABLE XXXV.

Dry refuse removed	19626	tons.
Wet do.	1520	do.
Total	21146	do.

The total weight is somewhat less than in 1897, but it has to be borne in mind that the deficiency in weight—163 tons—is due to the refuse being dry instead of wet. The dry refuse was 311 tons more in 1898 than 1897, which is what we desire ; and the wet refuse is 474 tons less, which is also what we aim at. The enormous total mass accentuates the urgent necessity for the immediate installation of a system of Destructors. The weight of refuse per head of population is slightly less, viz., 1-qr. cwt., but as this represents mere haulage of water in the shape of moisture, there is nothing to regret.

Under the provisions of the "Public Health Acts" 12 consignments of fish and 5 of meat have been destroyed ; in one case a hawker was prosecuted for exposing unsound mackerel for sale in a public street, and fined 20/- and costs, with the alternative of one month's imprisonment. In the other cases it was not necessary to institute legal proceedings.

One person was proceeded against for inhabiting a dwelling-house after the building had been declared unfit for human habitation, and fined 20/- and costs, or one month's imprisonment, and 10/- for each day the house was occupied after the expiration of the Closure Order.

Proceedings were taken in 3 cases for offences against the Common Lodging-house Bye-Laws ; one was fined 1/- and costs, and the other two cases were withdrawn on payment of costs.

One person was summoned under the Nuisance Prevention Bye-Laws. The case was afterwards withdrawn on payment of costs.

A cowkeeper was summoned for an offence against the "Dairies, Cowsheds, and Milkshops Regulations." In this case the summons was withdrawn on payment of costs.

Under the provisions of the "Sale of Food and Drugs Acts, 1875 and 1879," 52 samples were taken, viz. :—

TABLE XXXVI.

Milk	22
Butter	14
Ground Ginger	2
Lard	1
Coffee	5
Whisky	3
Tea	1
Pepper	1
Vinegar	1
Preserved Green Peas	1
Cocoa	1
Total	52

Four samples were found to be adulterated. Proceedings were taken against the vendors, with the following results, viz. :—

TABLE XXXVII.

1 Butter	fined	10/-	and costs.
1 Whisky	do.	40/-	do.
1 Milk	do.	10/-	do.
1 Milk	do.	10/-	do.

Four samples of Milk were submitted to Bacteriological Examination for the detection of Tubercle Bacillus. Tubercle Bacilli were not present in any of the specimens.

Five samples of Well Water have been analysed during the year, in order to obtain information as to the purity of the few remaining "Shallow Wells," used for drinking purposes, in the Borough.

I am, Gentlemen,

Yours obediently,

HENRY H. VERNON, M.D. & F.R.S., EDIN.